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Substitute for form 1449A-PTO
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**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 21

Application Number 10/823,503
 Filing Date April 12, 2004
 First Named Inventor O'CONNOR, Stephen D.
 Art Unit 1753
 Examiner Name NOGUEROLA, Alexander S.
 Attorney Docket Number A-86566-7 (46037-00323)

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant in Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1 †	4,704,193	11-17-1987	Bowers et al.	
	A2 †	4,707,952	11-17-1987	Stavrianopoulos	
	A3 †	4,707,440	11-17-1987	Stavrianopoulos	
	A4 †	4,711,955	12-08-1987	Ward, et al.	
	A5 †	4,755,458	07-05-1988	Rabbani, et al.	
	A6 †	4,787,963	11-29-1988	McCConnell	
	A7 †	4,840,890	06-20-1989	Hill et al.	
	A8 †	4,840,893	06-20-1989	Hill et al.	
	A9 †	4,849,513	07-18-1989	Smith, et al.	
	A10 †	4,868,103	09-19-1989	Stavrianopoulos, et al.	
	A11 †	4,894,325	01-16-1990	Englehardt, et al.	
	A12 †	4,908,319	03-13-1990	Smyczek et al.	
	A13 †	4,943,523	07-24-1990	Stavrianopoulos	
	A14 †	4,952,685	08-28-1990	Stavrianopoulos	
	A15 †	4,994,373	02-19-1991	Stavrianopoulos	
	A16 †	5,002,889	03-26-1991	Stavrianopoulos	
	A17 †	5,013,631	05-07-1991	Stavrianopoulos	
	A18 †	5,015,569	05-14-1991	Pontius	
	A19 †	5,064,618	11-12-1991	Baker et al.	
	A20 †	5,082,830	01-21-1992	Brakel, et al.	
	A21 †	5,089,112	02-18-1992	Skotheim et al.	
	A22 †	5,098,781	03-24-1992	Minnick et al.	
	A23 †	5,100,775	03-31-1992	Smyczek et al.	

Examiner Signature	Date Considered
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Substitute for form 1449A-PTO (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known Application Number 10/823,503 Filing Date April 12, 2004 First Named Inventor O'CONNOR, Stephen D. Art Unit 1753 Examiner Name NOGUEROLA, Alexander S. Attorney Docket Number A-66566-7 (463037-00323)	
Sheet	2	of	21		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number and Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A24 †	5,106,751	04-21-1992	Newman	
	A25 †	5,126,032	06-30-1992	Soane et al.	
	A26 †	5,126,034	06-30-1992	Carler et al.	
	A27 †	5,147,607	09-15-1992	Mochida	
	A28 †	5,156,810	06-15-1989	Ribi	
	A29 †	5,175,269	12-29-1092	Stavrianopoulos	
	A30 †	5,180,968	01-19-1993	Bruckenstein et al.	
	A31 †	5,194,133	03-16-1993	Clark et al.	
	A32 †	5,200,051	04-06-1993	Cozzette et al.	
	A33 †	5,241,060	08-31-1993	Englehardt, et al.	
	A34 †	5,242,828	09-07-1993	Bergstrom et al.	
	A35 †	5,278,043	01-11-1995	Dannwarth, et al.	
	A36 †	5,286,375	03-26-1994	Krick et al.	
	A37 †	5,304,487	04-19-1994	Walding et al.	
	A38 †	5,312,527	05-17-1994	Mikkelsen, et al.	
	A39 †	5,328,824	07-12-1994	Ward, et al.	
	A40 †	5,356,786	10-18-1994	Heller et al.	
	A41 †	5,391,272	02-21-1995	O'Daly et al.	
	A42 †	5,403,051	04-04-1995	Rivello et al.	
	A43 †	5,456,161	07-25-1995	Bergstrom et al.	
	A44 †	5,437,999	08-01-1995	Diebold et al.	
	A45 †	5,443,701	08-22-1995	Willner et al.	
	A46 †	5,449,767	09-12-1995	Ward, et al.	

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Substitute PTO-SB-08A (07-05)

Approved for use through 07-31-2008. OMB 0651-0051

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Substitute for form 1449A-PTO.
(Modified)**INFORMATION DISCLOSURE
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(use as many sheets as necessary)

Sheet **3** of **21****Complete if Known**

Application Number	10/823,503
Filing Date	April 12, 2004
First Named Inventor	O'CONNOR, Stephen D.
Art Unit	1753
Examiner Name	NOGUEROLA, Alexander S.
Attorney Docket Number	A-66566-7 (463037-00323)

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Prior Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A47 †	5,472,881	12-05-1995	Beebe et al.	
	A48 †	5,476,928	12-19-1995	Ward et al.	
	A49 †	5,486,335	01-23-1996	Wilding et al.	
	A50 †	5,491,097	02-13-1996	Ribi et al.	
	A51 †	5,498,392	03-12-1996	Wilding et al.	
	A52 †	5,505,321	04-09-1996	Caron et al.	
	A53 †	5,532,128	07-02-1996	Eggers et al.	
	A54 †	5,552,270	09-03-1996	Kharpko et al.	
	A55 †	5,565,322	10-15-1996	Heller	
	A56 †	5,565,552	10-15-1996	Magda et al.	
	A57 †	5,571,568	11-05-1996	Ribi et al.	
	A58 †	5,573,906	11-12-1996	Bannwarth et al.	
	A59 †	5,582,984	12-10-1996	Bieniarz et al.	
	A60 †	5,585,069	12-17-1996	Zanzucchi et al.	
	A61 †	5,587,128	12-24-1996	Wilding et al.	
	A62 †	5,591,576	01-07-1997	Meade et al.	
	A63 †	5,596,838	01-14-1997	Zanzucchi et al.	
	A64 †	5,595,908	01-21-1997	Fawcett et al.	
	A65 †	5,601,982	02-11-1997	Sargent et al.	
	A66 †	5,603,351	02-18-1997	Cherukuri et al.	
	A67 †	5,605,662	02-18-1997	Heller et al.	
	A68 †	5,620,850	04-15-1997	Bamdad et al.	
	A69 †	5,632,876	05-27-1997	Zanzucchi et al.	

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*EXAMINER: † These references were previously cited in a related application relied upon for an earlier filing date under 35 USC 120 and no copies are submitted in accordance with 37 CFR 1.89(b). Initial if reference considered, whether or not citation is in conformance with MPEP 909. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/823,503
		Filing Date	April 12, 2004
		First Named Inventor	O'CONNOR, Stephen D.
		Art Unit	1753
		Examiner Name	NOGUEROLA, Alexander S.
Sheet	4	of	21
		Attorney Docket Number	A-66566-7 (463037-00323)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A70 †	5,632,957	05-27-1997	Heller et al.	
	A71 †	5,635,358	06-03-1997	Wilding et al.	
	A72 †	5,637,469	06-10-1997	Wilding et al.	
	A73 †	5,643,738	07-01-1997	Zanzucchi et al.	
	A74 †	5,653,939	08-05-1997	Hollis et al.	
	A75 †	5,657,208	08-12-1997	Noe et al.	
	A76 †	5,670,322	09-23-1997	Eggers et al.	
	A77 †	5,681,484	10-28-1997	Zanzucchi et al.	
	A78 †	5,694,932	12-09-1997	Michel	
	A79 †	5,700,667	12-23-1997	Marble et al.	
	A80 †	5,705,348	01-06-1998	Okamoto et al.	
	A81 †	5,705,348	01-06-1998	Meade et al.	
	A82 †	5,726,026	03-10-1998	Wilding et al.	
	A83 †	5,727,548	03-17-1998	Hill et al.	
	A84 †	5,728,352	03-17-1998	Ackley	
	A85 †	5,728,532	03-17-1998	Ackley et al.	
	A86 †	5,743,700	04-01-1998	Ershov et al.	
	A87 †	5,750,015	05-12-1998	Soane et al.	
	A88 †	5,755,942	05-26-1998	Zanzucchi et al.	
	A89 †	5,756,050	05-26-1998	Ershov et al.	
	A90 †	5,759,866	06-02-1998	Machida et al.	
	A91 †	5,770,029	06-23-1998	Nelson et al.	
	A92 †	5,770,369	06-23-1998	Meade et al.	

Examiner Signature	Date Considered
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (see as many sheets as necessary)		Application Number	10/823,503
		Filing Date	April 12, 2004
		First Named Inventor	O'CONNOR, Stephen D.
		Art Unit	1753
		Examiner Name	NOGUEROLA, Alexander S.
		Attorney Docket Number	A-66566-7 (463037-00523)
Sheet	5	of	21

U.S. PATENT DOCUMENTS					
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	A93 †	5,770,721	6-23-1998	Ershov et al.	
	A94 †	5,776,670	07-07-1998	Hashimoto et al.	
	A95 †	5,780,234	07-14-1998	Meade et al.	
	A96 †	5,785,789	07-28-1998	Gagnon et al.	
	A97 †	5,795,453	08-18-1998	Gilmartin	
	A98 †	5,824,473	10-20-1998	Meade et al.	
	A99 †	5,837,859	11-17-1998	Teoule et al.	
	A100 †	5,843,767	12-01-1998	Beatle	
	A101 †	5,849,488	12-15-1998	Heller et al.	
	A102 †	5,851,772	12-15-1998	Mirzabekov et al.	
	A103 †	5,945,286	05-31-1999	Krihak et al.	
	A104 †	5,952,172	09-14-1999	Meade et al.	
	A105 †	5,968,745	10-19-1999	Thorp et al.	
	A106 †	6,013,170	01-11-2001	Meade	
	A107 †	6,013,450	01-11-2001	Meade	
	A108 †	6,020,047	02-01-2000	Everhart	
	A109 †	6,051,380	04-18-2000	Sosnowski et al.	
	A110 †	6,060,023	05-09-2000	Maracas	
	A111 †	6,060,327	05-09-2000	Keen	
	A112 †	6,063,573	05-16-2000	Kayyem	
	A113 †	6,071,699	06-06-2000	Meade et al.	
	A114 †	6,087,100	07-11-2000	Meade et al.	
	A115	6,090,933	07-18-2000	Kayyem et al.	

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		Examiner Name	NOGUEROLA, Alexander S.
Sheet	6	of	21
		Attorney Docket Number	A-66566-7 (463037-00323)

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	A116 †	6,096,263	11-01-2000	Kayyem et al.	
	A117 †	6,096,825	08-01-2000	Garnier et al.	
	A118 †	6,099,803	08-08-2000	Ackley et al.	
	A119 †	6,107,080	08-22-2000	Lennox	
	A120 †	6,177,250 B1	01-23-2001	Meade et al.	
	A121 †	6,180,352 B1	04-30-2001	Meade et al.	
	A122 †	6,200,761 B1	03-19-2001	Meade et al.	
	A123 †	6,203,758 B1	03-20-2001	Marks et al.	
	A124 †	6,221,583 B1	04-24-2001	Kayyem et al.	
	A125 †	6,232,062 B1	05-15-2001	Kayyem et al.	
	A126 †	6,238,624 B1	05-29-2001	Holler et al.	
	A127 †	6,238,870 B1	05-29-2001	Meade et al.	
	A128 †	6,248,229 B1	06-19-2001	Meade	
	A129 †	6,258,545 B1	07-10-2001	Meade et al.	
	A130 †	6,264,825 B1	07-24-2001	Blackburn et al.	
	A131	6,277,576 B1	08-21-2001	Meade et al.	
	A132	6,286,149 B1	07-31-2001	Meade et al.	
	A133 †	6,290,639 B1	09-18-2001	Kayyem et al.	
	A134 †	6,322,979 B1	11-27-2001	Bamdad et al.	
	A135 †	6,391,558 B1	05-21-2002	Henkens et al.	
	A136 †	6,416,642 B1	07-22-2002	Alajoki et al.	
	A137 †	6,461,820 B1	10-08-2002	Barton et al.	
	A138 †	6,478,939 B1	11-12-2002	Lennox et al.	

Examiner Signature	Date Considered
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			Art Unit	1753	
			Examiner Name	NOGUEROLA, Alexander S.	
Sheet	7	of	21	Attorney Docket Number	A-66566-7 (493037-00323)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A139 †	6,479,240 B1	11-12-2002	Kayem et al.	
	A140 †	6,495,323 B1	12-17-2002	Kayem et al.	
	A141 †	6,528,266 B2	03-04-2003	Meade et al.	
	A142 †	6,541,617 B1	04-01-2003	Bamdad et al.	
	A143 †	6,600,026 B1	07-29-2003	Yu	
	A144	6,600,026 B1	07-29-2003	Kayem et al.	
	A145 †	6,686,150 B2	02-03-2004	Blackburn et al.	
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	A147	6,753,143 B2	06-22-2004	Tao et al.	
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	A150	6,977,151 B2	12-20-2005	Kayem et al.	
	A151	2005-0211559 A1	09-29-2005	Kayem	
	A152 †	2003-0170677 A1	09-11-2003	Meade et al.	
	A153 †	2003-0150723 A1	08-14-2003	Kayem et al.	
	A154	2003-0150723 A1	08-14-2003	Kayem et al.	
	A155 †	2003-0146909 A1	07-29-2004	Duong et al.	
	A156 †	2003-0143556 A1	07-31-2003	Kayem et al.	
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	A158	2005-0053962 A1	03-10-2005	Irvine et al.	
	A159	2001-0034033 A1	10-25-2001	Meade et al.	
	A160	2002-0033345 A1	03-21-2002	Meade	
	A161 †	2002-0009810 A1	01-24-2002	O'Connor et al.	

Examiner Signature	Date Considered
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Substitute for form 1449A-PTO (Modified)			Complete if Known		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Application Number	10/823,503	
			Filing Date	April 12, 2004	
			First Named Inventor	O'CONNOR, Stephen D.	
			Art Unit	1753	
			Examiner Name	NOGUEROLA, Alexander S.	
Sheet	8	of	21	Attorney Docket Number	A-86566-7 (463037-00323)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.†	Document Number Number/Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A162	2002-0006643 A1	04-17-2002	Blackburn et al.	
	A163 †	2003-0003473 A1	01-02-2003	Kayem et al.	
	A164	2005-0003398 A1	01-06-2005	Tao et al.	

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Examiner Initials*	Cite No.†	Foreign Patent Document Country Code/Number/Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Figures Appear	†*
	B4 †	CA 3,000,004	09-24-1999	Hoffman-La Roche		
	B2 †	EP 0 063 879 A1	11-03-1982	Yale University		
	B3 †	EP 0 142 301 A1	05-22-1985	Serono Diagnostics Ltd.		
	B4 †	EP 0 213 825 A2	03-11-1987	Molecular Devices Corp.		
	B5 †	EP 0 220 442 A2	07-22-1987	Gen-Probe Inc.		
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/A.N./	B8 †	EP 0 515 615 A1	09-04-1996	Boehringer Mannheim		
	B9 †	EP 0 590 337 A2	04-16-1994	Genex, Inc.		
/A.N./	B10 †	EP 0 637 996 B2	07-23-1997	The Trustees of the University of Pennsylvania		
/A.N./	B11 †	EP 0 637 998 B2	07-31-1996	The Trustees of the University of Pennsylvania		
	B12 †	EP 1 254 372 B1	11-06-2002	Clinical Micro Sensors, Inc.		
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	B14 †	WO 86/05815 A1	10-09-1986	Genetics International, Inc.		
	B15 †	WO 90/05732 A1	06-30-1990	The Trustees of Columbia University of the City of New York		
	B16 †	WO 92/10757 A1	06-25-1992	Boehringer Mannheim		
	B17 †	WO 93/10267 A1	05-27-1993	Idgen, Inc.		
Examiner Signature	/Alexander Noguera/			Date Considered	07/24/2009	

*EXAMINER: † These references were previously cited in a related application relied upon for an earlier filing date under 35 USC 120 and no copies are submitted in accordance with 37 CFR 1.98(d). Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Substitute for form 1449A-PTO (Modified)		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/823,503
		Filing Date	April 12, 2004
		First Named Inventor	O'CONNOR, Stephen D.
		Art Unit	1753
		Examiner Name	NOGUEROLA, Alexander S.
Sheet	9	of	21
		Attorney Docket Number	A-65566-7 (463037-00323)

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ² Number ³ Kind Code ⁴ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	1*
	B10 †	WO 93/22035 A1	11-11-1993	The Trustees of the University of Pennsylvania		
/A.N./	B19 †	WO 93/22678 A2/A3	11-01-1993	Massachusetts Institute of Technology		
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	B21 †	WO 94/22889 A1	10-13-1994	Cis Bio International		
	B22 †	WO 95/11755 A1	05-04-1995	The Research Foundation of State University of New York		
	B23 †	WO 95/46074 A1	06-15-1995	California Institute of Technology		
/A.N./	B24 †	WO 95/15971 A2/A3	06-15-1995	California Institute of Technology		
	B25 †	WO 96/40478 A1	04-04-1996	Pharmacia Biosensor AB		
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	B30 †	WO 97/12030 A1	04-03-1997	Nanogen, Inc.		
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/A.N./	B32 †	WO 97/27329 A1	07-31-1997	The University of Chicago		
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/A.N./	B34 †	WO 97/36681 A1	10-09-1997	Perkin Elmer Corp.		
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	B37 †	WO 98/01750 A1	01-15-1998	Nanogen, Inc.		
	B38 †	WO 98/04740 A1	02-06-1998	Northwestern University		
	B39 †	WO 98/05434 A1	03-19-1998	Celgene Technologies Corp.		
	B40 †	WO 98/20162 A2/A3	05-14-1998	Clinical Micro Sensors, Inc.		

Examiner Signature	/Alexander Nogueraola/	Date Considered	07/24/2009
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Substitute for form 1449A-PTO (Modified)				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/823,503
				Filing Date	April 12, 2004
				First Named Inventor	O'CONNOR, Stephen D.
				Art Unit	1753
				Examiner Name	NOGUEROLA, Alexander S.
Sheet	10	of	21	Attorney Docket Number	A-66566-7 (463037-00323)

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.†	Foreign Patent Document Country Code* Number* Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	*†
/A.N./	B41 †	WO 98/27229 A1	06-25-1998	The University of Chicago		
/A.N./	B42 †	WO 98/28444 A2/A3	07-02-1998	The University of Chicago		
	B43 †	WO 98/35232 A2/A3	08-13-1998	University of North Carolina at Chapel Hill		
/A.N./	B44 †	WO 98/51823 A1	11-19-1998	Mosaic Technologies LLC		
/A.N./	B45 †	WO 98/57159 A1	12-17-1998	Clinical Micro Sensors, Inc.		
/A.N./	B46 †	WO 98/57319 A1	12-17-1998	Clinical Micro Sensors, Inc.		
/A.N./	B47 †	WO 99/14596 A1	03-25-1999	AB Sangtec Medical		
/A.N./	B48 †	WO 99/29711 A1	06-17-1999	Nanogen Inc.		
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	B55 †	WO 01/36100 A2/A3	05-17-2001	Clinical Micro Sensors, Inc.		

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.†	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	*†
	C4 +	AIZAWA, M., et al., "Integrated Molecular Systems for Biosensors," <i>Sensors and Actuators B</i> , 824 (Nos 1-3) part 1, 1-3 (March 1999).	
	C2 +	ALBERS, W. M., et al., "Design of Novel Molecular Wires for Realizing Long-Distance Electron Transfer," <i>Bioelectrochemistry</i> , 42, 23-33 (1997).	
	C3 +	ALBERTSSON, P., "Partition Studies on Nucleic Acids I. Influence of Electrolytes, Polymer Concentration and Nucleic Acid Conformation on the Partition in the Dextran-Polyethylene Glycol System," <i>Biochim. Biophys. Acta</i> , 103:1-12 (1985).	

Examiner Signature	/Alexander Nogueraola/	Date Considered	07/24/2009
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/823,503
				Filing Date	April 12, 2004
				First Named Inventor	O'CONNOR, Stephen D.
				Art Unit	1753
				Examiner Name	NOGUEROLA, Alexander S.
Sheet	11	of	21	Attorney Docket Number	A-86566-7 (463037-00323)

NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), title, page(s), volume/issue number(s), publisher, city and/or country where published.	1*
	C4	ALLERMAN, K.S., et al., "Electrochemical Rectification at a Monolayer-Modified Electrode," <i>J. Phys. Chem.</i> 100(42): 17050-17058 (1998).	
	C5	AMASINO, R., "Acceleration of Nucleic Acid Hybridization Rate by Polyethylene Glycol," <i>Analytical Biochemistry</i> , 152:304-307 (1986).	
	C6	ARWIN, M., et al., "Evidence for Photoelectron Transfer Through DNA Intercalation," <i>J. Inorganic Biochem. Abstracts</i> , 6th International Conference on Bioinorganic Chemistry, 51(1) & (2):526 (1993).	
	C7	BARISCI, et al., "Conducting Polymer Sensors," <i>TRIP</i> , 4(9):307-311 (1996).	
	C8	BAUM, R. M., "Views on Biological, Long-Range Electron Transfer Stir Debate," <i>C&EN</i> , pp 20-23 (1993).	
	C9	BEATTIE, et al., "Flowthrough Genosensors: Designs and Applications," Publishing Information not known.	
	C10	BECHTOLD, R., et al., "Ruthenium-Modified Horse Heart Cytochrome c: Effect of pH and Ligation on the Rate of Intramolecular Electron Transfer between Ruthenium(II) and Heme(III)," <i>J. Phys. Chem.</i> , 90(16):3600-3604 (1986).	
	C11	BIDAN, "Electroconducting conjugated polymers: new sensitive matrices to build up chemical or electrochemical sensors. A Review," <i>Sensors and Actuators</i> , B6:45-56 (1992).	
	C12	Biotechnology and Genetics: Genetic Screening Integrated Circuit," <i>The Economist</i> (February 25-March 3, 1995).	
/A.N./	C13	BLONDER et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," <i>Chem. Commun.</i> 1393-1394 (1998).	
	C14	BOGUSLAVSKY, L. et al., "Applications of redox polymers in biosensors," <i>Solid State Ionics</i> , 60:189-197 (1993).	
/A.N./	C15	BOON et al., "Mutation Detection by Electrocatalysis at DNA-Modified Electrodes," <i>Nature Biotechnology</i> , 18: 1096-1100 (October 2000).	
	C16	BOWLER, B. E., et al., "Long-Range Electron Transfer in Donor (Spacer) Acceptor Molecules and Proteins," <i>Progress in Inorganic Chemistry: Bioinorganic Chemistry</i> , 49:659-682 (1998).	
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	C20	CARR, J.D., et al., "Novel Electrochemical Sensors for neutral Molecules," <i>Chem. Commun.</i> , 1043-1050 (1997).	

Examiner Signature	/Alexander Nogueraola/	Date Considered	07/24/2009
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Substitute for form 1449A-PTO (Modified)				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/823,503
				Filing Date	April 12, 2004
				First Named Inventor	O'CONNOR, Stephen D.
				Art Unit	1753
				Examiner Name	NOGUEROLA, Alexander S.
Sheet	12	of	21	Attorney Docket Number	A-65566-7 (463037-00323)

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume/issue number(s), publisher, city and/or country where published.	*†
	C21 †	CARTER, et al., "Voltammetric Studies of the Interaction of Metal chelates with DNA. 2. Tris-Chelated Complexes of Cobalt (III) and Iron (II) with 10-Phenanthroline and 2,3'-Bipyridine," <i>J. Am. Chem. Soc.</i> , 111:8901-8911 (1989).	
	C22 †	CARUANA, et al., "Enzyme-Amplified Amperometric Detection of Hybridization and of a Single Base Pair Mutation in an 18-Base Oligonucleotide on a 7-µm-Diameter Microelectrode," <i>J. Am. Chem. Soc.</i> , 121:769-774 (1999).	
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	C29 †	DAVIS, L. M., et al., "Electron Sensor Properties of the Antitumor Drug-Amsacrine as Studied by Fluorescence Quenching of DNA-Bound Ethidium," <i>Chem.-Biol. Interactions</i> , 62:45-58 (1987).	
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Examiner Signature	/Alexander Nogueraola/	Date Considered	07/24/2009
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Sheet 13 of 21

Complete if Known

Application Number	10/823,503
Filing Date	April 12, 2004
First Named Inventor	O'CONNOR, Stephen D.
Art Unit	1753
Examiner Name	NOGUEROLA, Alexander S.
Attorney Docket Number	A-66566-7 (463037-00323)

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume/issue number(s), publisher, city and/or country where published.	†
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	C37 †	DORON, A., et al., "An Electroactive Photoisomerizable Monolayer-Electrode: A Command Surface for the Amperometric Transduction of Recorded Optical Signals," <i>Angew. Chem. Int. Ed. Engl.</i> 35(13):1534-1538 (Jul 1996).	
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	C41 †	DURHAM, B. et al., "Electron-Transfer Kinetics of Singly Labeled Ruthenium(II) Polypyridine Cytochrome c Derivatives," <i>American Chemical Society</i> , pages 181-193 (1990).	
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	C46 †	FARVER, O., et al., "Long-range intramolecular electron transfer in azurins," <i>Proc. Natl. Acad. Sci. USA</i> , 86:6968-6972 (1989).	
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	C50 †	FOX, M. A., et al., "Light-Harvesting Polymer Systems," <i>C&EN</i> , pages 38-48 (March 15, 1993).	

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			Application Number	10/823,503
			Filing Date	April 12, 2004
			First Named Inventor	O'CONNOR, Stephen D.
			Art Unit	1753
			Examiner Name	NOGUEROLA, Alexander S.
			Attorney Docket Number	A-65566-7 (463037-00323)
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				
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	C64 †	FRANCOIS, J.-C., et al., "Periodic Cleavage of Poly(dA) by Oligothymidylates Covalently Linked to the 1,10-Phenanthroline-Copper Complex," <i>Biochemistry</i> , 27:2272-2276 (1988).	
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	C65 †	HELLER, A., "Electrical Wiring of Redox Enzymes," <i>Acc. Chem. Res.</i> , 23:128-134 (1990).	

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			First Named Inventor	O'CONNOR, Stephen D.	
			Art Unit	1753	
			Examiner Name	NOGUEROLA, Alexander S.	
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	C66 †	HEILER, A., et al., "Amperometric biosensors based on three-dimensional hydrogel-forming epoxy networks," <i>Sensors and Actuators</i> , 13-14:180-183 (1993).	
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	C81 †	KOLB, J., et al., "Small-scale acoustic streaming in liquids," <i>J. Acoustics Soc. Am.</i> 28(6):1237-1242 (1956).	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/823,503
				Filing Date	April 12, 2004
				First Named Inventor	O'CONNOR, Stephen D.
				Art Unit	1753
				Examiner Name	NOGUEROLA, Alexander S.
Sheet	16	of	21	Attorney Docket Number	A-66566-7 (463037-00323)

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/A.N./	C90 †	LIVSHITS, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization with Gel-Immobilized Oligonucleotides," <i>Biophysical Journal</i> , 71:2795-2801 (1996).	
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	C92 †	MASKOS, U., et al., "Oligonucleotide hybridisations on glass supports: a novel linker for oligonucleotide synthesis and hybridisation properties of oligonucleotides synthesised in situ," <i>Nucleic Acids Research</i> , 20(2):1679-1684 (1992).	
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	C94 †	McCORMICK, R., et al., "Microchannel electrophoretic separations for DNA in injection-molded plastic substrates," <i>Anal. Chem.</i> 69(14):2628-2630 (Jul. 1997).	
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		Attorney Docket Number	A-66566-7 (463037-00323)

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	C96 †	MEADE, T. J., "Driving-Force Effects on the Rate of Long-Range Electron Transfer in Ruthenium-Modified Cyclochromes," <i>J. Am. Chem. Soc.</i> , 111:4353-4356 (1989).	
	C97 †	MEADE, T., et al., "Electron Transfer through DNA: Site-Specific Modification of Duplex DNA with Ruthenium Donors and Acceptors," <i>Angew Chem. Int. Ed. Engl.</i> , 34:352 (1995).	
/A.N./	C98 †	MESTEL, "Electron Highway Points to Identity of DNA," <i>New Scientist</i> , p. 21 (1995).	
	C99 †	MILLAN, et al., "Voltammetric DNA Biosensor for Cystic Fibrosis Based on a Modified Carbon Paste Electrode," <i>Anal. Chem.</i> , 66:2943-2948 (1994).	
	C100 †	MILLAN, K.M. and Mikkelsen, S.R., "Sequence-Selective Biosensor for DNA Based on Electroactive Hybridization Indicators," <i>Anal. Chem.</i> , 65:2311-2313 (1993).	
	C101 †	MILLAN, K.M., et al., "Covalent Immobilization of DNA onto Glassy Carbon Electrodes," <i>Electroanalysis</i> , 4:929-932 (1992).	
	C102 †	MILLER, C., "Absorbed π -Hydroxy Thiol Monolayers on Gold Electrodes: Evidence for Electron Tunneling to Redox Species in Solution," <i>J. Phys. Chem.</i> , 95:877-886 (1991).	
	C103 †	MIRKIN et al., "A DNA-based Method for Rationally Assembling Nanoparticles into Macroscopic Materials," <i>Nature</i> , 362:607-609 (1999).	
/A.N./	C104 †	MIRZABEKOV, A. et al., "DNA Sequencing by Hybridization - a Megasequencing Method and a Diagnostic Tool," <i>Tibtech</i> , 12:27-32 (1994).	
/A.N./	C105 †	MITCHELL et al., "Programmed Assembly of DNA Functionalized Quantum Dots," <i>J. Am. Chem. Soc.</i> , 121:8122-8123 (1999).	
/A.N./	C106 †	MUCIC et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," <i>J. Am. Chem. Soc.</i> , 120:12674-12675 (1998).	
	C107 †	MUCIC, R.C., et al., "Synthesis and Characterization of DNA with Ferrocenyl Groups Attached to Their 5'-Termini: Electrochemical Characterization of a Redox-Active nucleic acid monolayer," <i>Chem. Commun.</i> , 555-557 (1998).	
	C108 †	MÜLLER, et al., "DNA Fractionation by Two-Phase Partition with Aid of a Base-Specific Macroligand," <i>Analytical Biochemistry</i> , 176:269-277 (1981).	
	C109 †	MÜLLER, W., "Partitioning of Nucleic Acids," <i>Partitioning in Aqueous Two-Phase Systems</i> , 227-266 (1985).	
	C110 †	MURPHY, C. J., et al., "Long-Range Photoinduced Electron Transfer Through a DNA Helix," <i>Science</i> , 262:1025-1026 (1993).	
	C111 †	NAKASHIMA, N., et al., "An Ion Gate Lipid Monolayer Membrane on Gold Electrodes," <i>J. Chem. Soc. Chem. Commun.</i> , 4:232-233 (1991).	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Application Number	10/823,503	
			Filing Date	April 12, 2004	
			First Named Inventor	O'CONNOR, Stephen D.	
			Art Unit	1753	
			Examiner Name	NOGUEROLA, Alexander S.	
Sheet	18	of	21	Attorney Docket Number	A-65566-7 (463037-00323)

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	†
	C112	NAPIER, M., et al., "Modification of Electrodes with Dicarboxylate Self-Assembled Monolayers for Attachment and Detection of Nucleic Acids," <i>Langmuir</i> 13(23):6342-6344 (Nov. 1997).	
	C113	NAPIER, M.E., et al., "Probing Bimolecular Recognition with Electron Transfers Electrochemical Sensors for DNA Hybridization," <i>Biosynthetic Chem</i> 8:905-913 (1997).	
	C114	NIWA, M., et al., "Specific binding of complementary c-glycolipid monolayers on gold electrodes," <i>J. Chem. Soc. Chem. Commun</i> 7:547-549 (1992).	
	C115	ORELLANA, G., et al., "Photoinduced Electron Transfer Quenching of Excited Rho-Photocyclization Bound to DNA: The Role of the Nucleic Acid Double Helix," <i>Photochemistry and Photobiology</i>, 54(4):499-509 (1991).	
	C116	PALECEK, "From Polarography of DNA to Microanalysis with Nucleic Acid-Modified Electrodes," <i>Electroanalysis</i>, 6(1):7-14 (1994).	
/A.N./	C117	PARINOV, S., "DNA Sequencing by Hybridization to Microchip octa- and Decanucleotides Extended by Stacked Pentanucleotides," <i>Nucleic Acids Research</i> , 24(15):2998-3004 (1996).	
/A.N./	C118	PATERSON, "Electric Genes: Current Flow in DNA Could Lead to Faster Genetic Testing," <i>Scientific American</i> , 33-34 (May 1995).	
	C119	PONTIUS, et al., "Rapid Renaturation of Complementary DNA Strands Mediated by Cationic Detergents: A Role for High-Probability-Binding Domains in Enhancing the Kinetics of Molecular Assembly Processes," <i>Proc. Natl. Acad. Sci. USA</i>, 88:8237-8241 (1991).	
	C120	PONTIUS, et al., "Renaturation of Complementary DNA Strands Mediated by Purified Mammalian Heterogeneous Nuclear Ribonucleoprotein A1 Protein Implications for a Mechanism for Rapid Molecular Assembly," <i>Proc. Natl. Acad. Sci. USA</i>, 87:8403-8407 (1990).	
/A.N./	C121	PROUDNIKOV, D., "Immobilization of DNA in Polyacrylamide Gel for the manufacture of DNA and DNA-Oligonucleotide Microchips," <i>Analytical Biochemistry</i> , 259:34-41 (1998).	
/A.N./	C122	PROUDNIKOV, D., et al., "Chemical Methods of DNA and RNA Fluorescent Labeling," <i>Nucleic Acids Research</i> , 24(22):4535-4542 (1996).	
	C123	PURUGGANAN, M. D., et al., "Accelerated Electron Transfer Between Metal Complexes Mediated by DNA," <i>Science</i>, 241:1645-1649 (1988).	
	C124	REIMERS, J., et al., "Towards Efficient Molecular Wires and Switches: The Brooker Ions," <i>BioSystems</i> 35:107-111 (1993).	
	C125	RHODES, D., et al., "Local Radiolysis of DNA Determined by Enzyme Digestion," <i>Nature</i>, 296:676-678 (1982).	
	C126	RISSER, S. M., et al., "Electron Transfer in DNA: Predictions of Exponential Growth and Decay of Coupling with Donor-Acceptor Distance," <i>J. Am. Chem. Soc.</i>, 115(8):2508-2510 (1993).	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/823,503
				Filing Date	April 12, 2004
				First Named Inventor	O'CONNOR, Stephen D.
				Art Unit	1753
				Examiner Name	NOGUEROLA, Alexander S.
Sheet	19	of	21	Attorney Docket Number	A-66566-7 (463037-00323)

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	†	
	C127 †	ROJAS, M., et al., "Molecular recognition at the electrode-solution interface, design, self-assembly, and interfacial binding properties of a molecular sensor," <i>J. Am. Chem. Soc.</i> 117(21):5663-5664 (May 1995).		
	C128 †	SAKAMOTO, S., et al., "Design and synthesis of flavin-conjugated peptides and assembly on a gold electrode," <i>J. Chem. Soc. Perkin Transact. 2</i> 11:2319-2326 (1996).		
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	C130 †	SATYANARAYANA, S., et al., "Neither Δ- nor Λ-Tris(phenanthroline)ruthenium(II) Binds to DNA by Classical Intercalation," <i>Biochemistry</i> , 31(39):9319-9324 (1992).		
	C131 †	SCHLERETH, Q., et al., "Self-Assembled Monolayers with Biospecific Affinity for NAD(PH)-Dependent Dehydrogenases: Characterization by Surface Plasmon Resonance Combined with Electrochemistry 'in situ'," <i>Journal of Electroanalytical Chemistry</i> , 444:231-240 (1998).		
	C132 †	SCHREIBER, et al., "Bis(purine) Complexes of trans-aPt ²⁺ : Preparation and X-ray Structures of Bis(9-methyladenine) and Mixed 9-Methyladenine, 9-Methylguanine Complexes and Chemistry Relevant to Metal-Modified Nucleobase Triples and Quartets," <i>J. Am. Chem. Soc.</i> 118:4124-4132 (1996).		
	C133 †	SCHUHMAN, W., et al., "Electron Transfer between Glucose Oxidase and Electrodes via Redox Mediators Bound with Flexible Chains to the Enzyme Surface," <i>J. Am. Chem. Soc.</i> , 113:1394-1397 (1991).		
	C134 †	SCHUMM, et al., "Iterative Divergent-Convergent Approach to Linear Conjugated Oligomers by Successive Doubling of the Molecular Length: A Rapid Route to a 128 G-Long Potential Molecular Wire," <i>Angew. Chem. Int. Ed. Engl.</i> , 33(11):1360-1363 (1994).		
	C135 †	SIGEL, G.B., et al., "A Self-Assembled Monolayer for the Binding and Study of Histidine-Tagged Proteins by Surface Plasmon Resonance," <i>Analytical Chemistry</i> 68(3):490-497 (1996).		
	C136 †	SLOOP, F., et al., "Metalloorganic labels for DNA sequencing and mapping," <i>New J. Chem.</i> , 18: 317-326 (1994), (added 4-23-01).		
	C137 †	SOUTHERN, E.M., et al., "Arrays of Complementary Oligonucleotides for Analysing the Hybridisation Behavior of nucleic Acids," <i>Nucleic Acids Research</i> 22(8):1368-1373 (1994).		
	C138 †	STEELE, et al., "Electrochemical Quantitation of DNA Immobilized on Gold," <i>Anal. Chem.</i> 70:4670-4677 (1998).		
/A.N./	C139 †	STORHOFF, et al., "One-Pot Colorimetric Differentiation of Polynucleotides with Single Base Imperfections Using Gold Nanoparticles Probes," <i>J. Am. Chem. Soc.</i> , 120:1959-1964 (1998).		
	C140 †	STROBEL, S., et al., "Site-Specific Cleavage of a Yeast Chromosome by Oligonucleotide-Directed Triple-Helix Formation," <i>Science</i> , 249:73-75 (1990).		
/A.N./	C141 †	SU, et al., "Interfacial Nucleic Acid Hybridization Studied by Random Primer ³² P Labelling and Liquid-Phase Acoustic Network Analysis," <i>Analytical Chemistry</i> , 66(6):769-777 (1994).		
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			First Named Inventor	O'CONNOR, Stephen D.	
			Art Unit	1753	
			Examiner Name	NOGUEROLA, Alexander S.	
Sheet	20	of	21	Attorney Docket Number	A-86566-7 (463037-00323)

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/A.N./	C143 †	TELSER, J., et al., "DNA Duplexes Covalently Labeled at Two Sites: Synthesis and Characterization by Steady-State and Time-Resolved Optical Spectroscopies," <i>J. Am. Chem. Soc.</i> , 111:7226-7232 (1989).	
	C144 †	TELSER, J., et al., "DNA Oligomers and Duplexes Containing a Covalently Attached Derivative of Tris(2,2'-bipyridine)ruthenium(II): Synthesis and Characterization by Thermodynamic and Optical Spectroscopic Measurements," <i>J. Am. Chem. Soc.</i> , 111:7221-7226 (1989).	
/A.N./	C145 †	TERRETZ, S., et al., "Protein binding to supported lipid membranes: investigation of the cholera toxin-ganglioside interaction by simultaneous impedance spectroscopy and surface plasmon resonance," <i>Langmuir</i> 9(5):1361-1369 (May 1993).	
/A.N./	C146 †	THARA, T., et al., "Gene Sensor using Ferrocenyl Oligonucleotide," <i>Chem. Commun.</i> , 1609-1610 (1997).	
/A.N./	C147 †	TIMOFEEV, E. et al., "Methidium Intercalator Inserted into Synthetic Oligonucleotides," <i>Tetrahedron Letters</i> , 37(47):8467-8470 (1996).	
/A.N./	C148 †	TIMOFEEV, E. et al., "Regioselective Immobilization of Short Oligonucleotides to Acrylic Copolymer Gel," <i>Nucleic Acids Research</i> , 24(16): 3142-3148 (1996).	
	C149 †	TOUR, "Conjugated Macromolecules of Precise Length and Constitution. Organic Synthesis for the Construction of Nanoarchitectures," <i>Chem. Rev.</i> , 96:537-553 (1996).	
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	C151 †	TULLIUS, T., et al., "Iron(II)-EDTA Used to Measure the Helical Twist Along Any DNA Molecule," <i>Science</i> , 220:679-681 (1985).	
	C152 †	TURRO, N., et al., "Molecular Recognition and Chemistry in Restricted Reaction Spaces. Photophysics and Photoinduced Electron Transfer on the Surface of Micelles, Dendrimers, and DNA," <i>Acc. Chem. Res.</i> , 24:332-340 (1991).	
/A.N./	C153 †	TURRO, N., et al., "Photoelectron Transfer Between Molecules Adsorbed in Restricted Spaces," <i>Photochem. Convers. Storage Sol. Energy, Proc. Int. Conf.</i> , 8th, pp 121-139 (1990).	
	C154 †	UOSEKE, K., et al., "A Self-Assembled Monolayer of Ferrocenylalkane Thiols on Gold as an Electron Mediator for the Reduction of Fe(III)-EDTA in Solution," <i>Electrochimica Acta</i> , 36(11-12):1799-1801 (1991).	
	C155 †	VAN NESS, J., et al., "A Versatile Solid Support System for Oligodeoxynucleotide Probe-Based Hybridization Assays," <i>Nucleic Acids Research</i> , 19(12):3343-3349 (1991).	

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		Filing Date	April 12, 2004
		First Named Inventor	O'CONNOR, Stephen D.
		Art Unit	1753
		Examiner Name	NOGUEROLA, Alexander S.
Sheet	21	of	21
		Attorney Docket Number	A-66566-7 (463037-00323)

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/A.N./	C156 †	VELEV et al., "In Situ Assembly of Colloidal Particles into Miniaturized Biosensors," The ACS Journal of Surfaces and Colloids, Langmuir, 15(11):3693-3698 (1999).	
	C157 †	WALLACE, J. et al., "Electron Transfer of Yeast Cytochrome C Immobilized On Sam Modified Gold Electrodes", Book of Abstracts, 214 th ACS National Meeting, Las Vegas, NV, PHYS-328 (September 7-11 1997).	
	C158 †	WANG, J., et al., "Peptide Nucleic Acid Probes for Sequence-Specific DNA Biosensors," J. Am. Chem. Soc. 118(33):7687-7670 (Aug. 1996).	
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	C161 †	WEINBERG, et al., "Acceleration of DNA Renaturation Rates," Biopolymers, 14:2517-2524 (1976).	
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	C163 †	WINKLER, J. et al., "Electron Transfer in Ruthenium-Modified Proteins," Chem. Rev. 92:369-379 (1992).	
/A.N./	C164 †	XU, et al., "Immobilization and Hybridization of DNA on an Aluminum(III) Alkanedisphosphonate Thin Film with Electrogenenerated Chemiluminescent Detection," J. Am. Chem. Soc., 117:2627-2631 (1995).	
/A.N./	C165 †	XU, et al., "Immobilization of DNA on an Aluminum(III) alkanedisphosphonate Thin Film with Electrogenenerated Chemiluminescent Detection," J. Am. Chem. Soc., 116:8388-8387 (1994).	
	C166 †	YANG, et al., "Growth and characterization of metal(ii) alkanedisphosphonate multilayer thin films on gold surfaces," J. Am. Chem. Soc., 115:11655-11662 (1993).	
/A.N./	C167 †	YERSHOV, G. et al., "DNA analysis and diagnostics on oligonucleotide microchips," Proc. Natl. Acad. Sci. USA 93:4913-4918 (1996).	
	C168 †	ZHOU, et al., "Fluorescent chemosensors based on energy migration in conjugated polymers: the molecular wire approach to increased sensitivity," J. Am. Chem. Soc., 117:12593-12602 (1995).	

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